



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,313	09/23/2003	Zhiqiang Wang	200309072	9275

22879 7590 04/20/2007
HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

PARK, JEONG S

ART UNIT	PAPER NUMBER
----------	--------------

2109

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/667,313

Applicant(s)

WANG ET AL.

Examiner

Jeong S. Park

Art Unit

2109

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/23/2003.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 8 and 10-20 are objected to because of the following informalities:

In claim 8, line 2, the phrase "a network switch" should be corrected as --the network switch-- for clear understanding of the claim;

In claim 10, line 3, the word "memory" should be corrected as --a memory-- for clear understanding of the claim;

In claim 10, line 7, the word "information" should be corrected as --the information-- for clear understanding of the claim;

In claim 11, line 3, the word "information" should be corrected as --the information-- for clear understanding of the claim;

In claim 17, line 2, the phrase "a first device" should be corrected as --the first device-- for clear understanding of the claim; and

In claim 17, line 2, the phrase "a portion of a network" should be corrected as --the portion of the network-- for clear understanding of the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1, 10, 21 and 27, the phrase "all devices" is confusing as it claims plural since only a first device has been previously recited.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 21-30 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 21-26 are drawn towards a computer readable medium containing a computer program for resolving network connectivity comprising determining a first device, obtaining a first identifier, assigning a second identifier, modifying the first identifier, and associating the modified first identifier. The computer readable medium defined in the specification is not in one of the statutory categories. The specification provides no explicit and deliberate definition of the computer readable medium.

Claim 27 is drawn towards a system for resolving network connectivity comprising means for determining a first identifier, means for determining a second identifier, and means for associating the first and second identifier. This is an abstract idea. In order for an abstract claim to be statutory, it must result in useful, concrete, and tangible results. The final result achieved by the claimed invention does not produce any tangible result.

Claims 28-30, which are dependent on claim 27, do not add any tangible results to the claim and thus are rejected for the same.

Claim Rejections - 35 USC § 102

Art Unit: 2109

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-5, 8-11, 13, 14, 17-24, and 27-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Green (U.S. Publication No. US 2004/0213211 A1).

Regarding claims 1, 10, and 21, Green teaches as follows:

A method or a system for resolving network connectivity (a system for determining shared broadcast domains, see, e.g., page 1, paragraph [0009], lines 1-5), the method comprising:

Determining whether a first device (ES-1200, reference character 14 in figure 2) is included in a portion of a network (all devices, reference character 14 in figure 2) in which the first device can receive information directed to all devices (in a common broadcast domain) included within the portion of the network (means for identifying which ports or interfaces on each device are part of a common broadcast domain, see, e.g., page 1, paragraph [0009], lines 8-13);

Obtaining a first identifier (MAC address) associated with the portion of the network (discovery of duplicate MAC addresses on different network forwarding devices in order to identify these devices' adjacencies and membership in a common broadcast domain, see, e.g., page 1, paragraph [0012], lines 1-6);

Assigning a second identifier (logical interface) to the portion of the network unique to other portions of the network (logical interfaces are used to identify device adjacencies and membership in the common broadcast domain, see, e.g., page 1, paragraph [0012], lines 6-11);

Modifying the first identifier (MAC addresses) associated with the portion of the network to include the second identifier (logical interfaces: VLAN ID or VLAN Name)(see, page 3, MAC-to-broadcast domain table); and

Associating the modified first identifier with the first device and the portion of the network (Marconi's ServiceOn Data NMS uses the high-level VLAN term to describe the aggregation of individual device-specific VLANs on one or more directly connected devices that form a single broadcast domain, see, e.g., page 3, paragraph [0037] and figure 2).

Regarding claims 2, 11, and 22, Green teaches as follows:

Identifying a second device (ES-1000, reference character 14 in figure 2) included in the portion of the network (means for identifying which ports or interfaces on each device are part of a common broadcast domain, see, e.g., page 1, paragraph [0009], lines 8-13); and

Associating the modified first identifier with the second device (Marconi's ServiceOn Data NMS uses the high-level VLAN term to describe the aggregation of individual device-specific VLANs on one or more directly connected devices that form a single broadcast domain, see, e.g., page 3, paragraph [0037] and figure 2).

Regarding claims 3 and 23, Green teaches that presenting a first symbol (ES-

Art Unit: 2109

1200, reference character 14 in figure 2) identifying the first device connected to a second symbol (ES-1300SX and ESR-5000, reference character 14 in figure 2) identifying the portion of the network using the modified first identifier (ES-1300SX and ESR-5000 belong to the same portion of the network because they share same VID 131, see, e.g., page 3, paragraph [0038], MAC-to-Broadcast Domain Table and figure 2).

Regarding claims 4 and 13, Green teaches that the portion of the network is a broadcast domain (see, e.g., page 3, paragraph [0035] and figure 2).

Regarding claims 5, 14, and 24, Green teaches that the portion of the network is a Virtual Local Area (high-level VLAN, see, e.g., page 3, paragraph [0036]).

Regarding claims 8 and 19, Green teaches that the first device is a port (see, e.g., Port Giga1 on ES-1200 in figure 2) included in a network switch (means for identifying which ports or interfaces on each device are part of a common broadcast domain, see, e.g., page 1, paragraph [0009], lines 8-13).

Regarding claims 9 and 20, Green teaches that the first device is coupled to other portions of the network (different broadcast domain) by a network router (devices are in different broadcast domains cannot communicate unless a router forwards frames between them, see, e.g., page 2, paragraph [0021], lines 12-25).

Regarding claim 17, Green teaches that a first table (MAC-to-Broadcast Domain Table) having an entry associating an identifier (MAC address) of the network switch with the identifier of the VLAN (see, page 3, MAC-to-Broadcast Domain Table).

Regarding claim 18, Green teaches that a second table (MAC-to-Broadcast

Art Unit: 2109

Domain Table) having an entry associating an identifier of the network switch with the second identifier (VLAN ID or VLAN Name)(see, page 3, MAC-to-Broadcast Domain Table).

Regarding claim 27, Green teaches as follows:

A system for resolving network connectivity, the system comprising;

Means for determining a first identifier associated with a portion of a network in which a device can receive information directed to all devices included within the portion of the network (discovery of duplicate MAC addresses on different network forwarding devices in order to identify these devices' adjacencies and membership in a common broadcast domain, see, e.g., page 1, paragraph [0012], lines 1-6);

Means for determining a second identifier associated with the portion of the network unique to other portions of the network (logical interfaces are used to identify device adjacencies and membership in the common broadcast domain, see, e.g., page 1, paragraph [0012], lines 6-11); and

Means for associating the first and second identifiers with the device and the portion of the network (Marconi's ServiceOn Data NMS uses the high-level VLAN term to describe the aggregation of individual device-specific VLANs on one or more directly connected devices that form a single broadcast domain, see, e.g., page 3, paragraph [0037] and figure 2).

Regarding claim 28, Green teaches that the means for associating means for modifying the first identifier associated with the portion of the network to include the second identifier (see, page 3, MAC-to-broadcast domain table).

Art Unit: 2109

Regarding claim 29, Green teaches that means for presenting an association between the device and the portion of the network based on the first and second identifiers (ES-1300SX and ESR-5000 belong to the same portion of the network because they share same VID 131, see, e.g., page 3, paragraph [0038], MAC-to-Broadcast Domain Table and figure 2).

Regarding claim 30, Green teaches that the network devices are Ethernet ATM or multiservice IP/MPLS switches therefore having means for storing the first identifier is inherent (see, e.g., page 1, paragraph [0002], lines 1-5).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 6, 7, 15, 16, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Green (U.S. Publication No. US 2004/0213211 A1) in view of Shamir et al. (hereinafter Shamir)(U.S. Patent No. US 6,269,076 B1).

Regarding claims 6, 7, 15, 16, 25, and 26, Green discloses all the limitations of claims 1, 10 and 21 except for including Management Information Base configure to store an identifier of the VLAN and using a Simple Network Management Protocol to obtain the identifier of the VLAN from the MIB.

Shamir discloses as follows:

Network Management System utilizes the Management Information Base

maintained in the network devices (see, e.g., col. 8, lines 9-10);

The NMS obtains status about a device and configures settings and functions within the MIBs in the managed network device via the SNMP protocol (see, e.g., col. 8, lines 20-24); and

The MIB contains the status of all physical and logical elements including the status of all VLANs (see, e.g., col. 8, lines 38-42).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Green to include MIB to store the identifier of the VLAN and SNMP to obtain the identifier of the VLAN from the MIB as taught by Shamir in order to manage efficiently the devices in a communications network in the reliable type of database.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Green (U.S. Publication No. US 2004/0213211 A1) in view of Lewis et al. (hereinafter Lewis)(U.S. Patent No. US 6,026,442).

Regarding claim 12, Green discloses all the limitations of claim as explained above per claim 3 except for indicating a system with a display to present the claimed method.

Lewis discloses that a display unit (114 in figure 1) is connected to the processor so as to display, generally in graphic form, a representation of the network including its topology and functions (see, e.g., col. 4, lines 17-20 and figure 1).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Green to include a display in a system as taught by Lewis in order to

Art Unit: 2109

provide user friendly GUI for easier and more efficient interactions in the Network Management System.

Conclusion

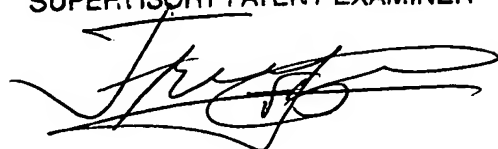
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeong S. Park whose telephone number is 571-270-1597. The examiner can normally be reached on Monday through Thursday 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on 571-272--6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSP
April 12, 2007

FRANTZ JULES
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read 'Frantz Jules', is written over the printed name and title.